

## Amphisbatis incongruella, Stn., probably myrmecophilous in the larval stage, and a few notes on some other Myrmecophiles.

By H. St. J. K. DONISTHORPE, F.Z.S., F.E.S.

TINEINA. — *Ecophoridae*. — *Amphisbatis incongruella*, Stainton, *Syst. Cat.*, 1849, p. 15. Sp. 34; Zeller, *Stett. Ent. Ztg.*, xxxi., 1870, pp. 304-5; Meyrick, *Handbook Brit. Lep.*, 1895, p. 638; Stand. and Rebel, *Cat.*, iii., 1901. Sp. 3540, p. 184; Spüler, *Schmet. Kur.*, iii., 1910, p. 441, fig. 189; pl. 90, fig. 84.

In the spring of 1907 I bred two little moths from a nest of *Formica exsecta* which I had brought home from Bournemouth on September 12th, 1906. It was suggested that they were Gelechiids, and new to science (*Ent. Rec.*, 1907, p. 256). I eventually gave one of them to Lord Walsingham, and it went with his magnificent collections to the British Museum. Mr. Hartley Durrant has now kindly identified it, it being necessary, however, to cut off the wings and make a slide of them before the specimen could be determined. Mr. Durrant tells me he would assume a real connection between the larva of this insect and the ants. The larva is said to feed on *Calluna* and *Erica* (*Ent. Ann.*, 1874, p. 22). The nest of *Formica exsecta* is, of course, constructed of grass and ling, etc. Zeller, in a footnote (*loc. cit.*), records the capture of the larva, and describes its case. It is very active, and makes a small case out of either end of which it can protrude. He found it by accident in summer in a sandy spot very suitable for *Formica exsecta* or other ants. As he could not find out on what the larva lived he was unable to rear it. On May 27th last year, I went to Bournemouth to meet Mr. Banks, and I took him to the spot where I had obtained the 1906 nest. We found an *exsecta* nest almost on the exact same spot. This I took, and have it still in a very large glass bowl with sand in. The ants have all died, but in the winter I found a thin long case fastened to the muslin over the nest. I broke it open but it appeared to be empty. I have just found a smaller one fastened to the side of the glass. Mr. Durrant thinks these are certainly the larval cases. I hope I may breed some of the moths later on. It is very satisfactory to have the species cleared up. The case would protect the larvæ from the ants, and of course they feed on the refuse of the nest, and would not be confined to *exsecta* nests. F. Smith wrote in the *Ent. Ann.*, 1869, p. 72, when speaking of Bournemouth: "In June I obtained all the sexes from a nest of *Formica congerens*: I searched in the nest of this ant for the *Tinea ochraceella*, but without success; when I first discovered the nest of this ant, a few years ago, I observed a number of minute moths running among the ants, but it did not occur to me at the time that it might probably be a rarity." It is very probable that these little moths were the same as mine. Mr. Durrant suggests that *Epidola*, with a somewhat similar case and very hard to breed, might have similar associations.

COLEOPTERA.—*Notothecta flavipes*, Gr.—In my myrmecophilous notes for 1910 I omitted to record the fact that Mr. Taylor and I found this beetle in some numbers in a nest of *Formica exsecta* at Parkhurst Forest, Isle of Wight, on May 15th last year. Its normal host is *F. rufa*, and it has never been recorded with *exsecta* before either here or on the Continent. There were too many specimens in the nest for

it to be regarded as a chance occurrence. *Notothecta anceps*, Er., is recorded with *F. exsecta* as well as with *F. rufa* on the Continent, and I have found it with the former in plenty at both Bournemouth and Aviemore.

*Cryptocephalus fulvus*, Goetz.—On April 16th, 1910, I found in a nest of *Lasius fuliginosus* at Wellington College a small case with a larva in it, very like a *Clythra* case in miniature, which I concluded must contain a *Cryptocephalus* larva. I brought it home and placed it in a small plaster nest with a few of the ants and some of the black material and contents of their nest. The larva crawled about with its case like a small *Clythra* larva, and fed on the refuse of the nest. It enlarged its case in the same way as a *Clythra* larva does. There was a little sand in the nest, and the part added to the case showed as a rim of different colour to the rest of the case. It fastened itself to a bit of wood at the end of May. The beetle unfortunately hatched whilst I was away in Scotland between June 8th and June 19th. My assistant (M. Cutmore) did not like to remove the beetle in my absence, and it was killed either by the ants or some of the *Myrmecodoniae* which were present. I found its wing cases, thorax, etc., and the empty and broken larval case in the *débris* of the nest. In nature the beetle would promptly escape from the nest as does *Clythra*. Chitty recorded the capture of *Cryptocephalus 6-punctatus* near a nest of *F. rufa*, and expressed his opinion that it had come out of this nest (*Ent. Rec.*, 1901, p. 250), and Wasmann suggests that from some short notes by Weise it is probable that all the species of *Cryptocephalus* change to pupæ in ant's nests (*Krit. Ver. d. Myr. u. Ter. Arth.*, 1894, p. 159).

COCCIDÆ.—I have recently received some *Coccidae* back from Mr. Green, which he has kindly named for me. These are *Ripersia subterranea*, Newst., taken in a nest of *Lasius niger* at Box Hill, May 8th, 1910.

*Ripersia tomlini*, Newst., with *L. niger*, Box Hill, May 8th, 1910, and with the same ant at Sandown, Isle of Wight, April 24th, 1909, and May 14th, 1910. The localities for these two species are all new.

*Dactylopius*, sp. I found a number of a coccid with *Wasmannia auropunctata*, at Kew, which Mr. Green believes to be the young of a *Dactylopius*.

ACARINA.—Mr. N. D. F. Pearce has also returned to me some more of my *Acari* captured with ants. They are some of the more difficult, and Mr. Pearce does not express his opinion on these specimens without doubt.

*Urodiscella ricasoliana*, Berl. (?) A single specimen taken in a nest of *F. rufa* at Weybridge, April 20th, 1910. I have only found it with *Lasius fuliginosus* before, and Berlese (*Redia* 1903, p. 340), only gives the same ant.

*Uroplitelia oratula*, Berl. (?) With *L. flavus* at Box Hill, May 1st, 1910, and in some numbers with *Myrmica laevinodis*, May 20th, 1910, in the same locality.

*Laelaps cuneifer*, Mich. (?) Several large and curious looking specimens in a nest of *L. fuliginosus* at Darent Wood, April 2nd, 1910.

*Laelaps myrmophilus*, Mich. (?) Took a single specimen with *F. fusca* at Box Hill in May.

It seems to me to be best to record these specimens now, and I may be able to get them verified on some future occasion.